

You probably think that the video game  
your child is playing every afternoon isn't  
affecting their behavior. **Think again.**

Researchers at the Indiana University  
School of Medicine recently conducted  
a study that demonstrated otherwise.



#### WHAT YOU CAN DO AS A PARENT:

- Provide a media-free zone in your child's bedroom – no TV, video games, computer, VCR or DVD players.
- Reduce the exposure children have to violent content in movies, TV and video games.
- Refuse to expose children under the age of 7 to ANY violent content in entertainment.
- Make TV viewing a family activity and have the TV in a common area.
- Turn off the television before school.
- Don't let your children play violent video games. Check [www.moviereports.org](http://www.moviereports.org) for reviews of video games.
- Know the content of movies before your child goes to the theater. Check [www.moviereports.org](http://www.moviereports.org) for information on violence, sexual content and language in movies.
- Don't let a child under the age of 17 go to an "R" rated movie.
- Monitor your child's use of the Internet. Don't let your child have unlimited access to the Internet.
- Get involved in the Parents' Awareness Campaign. All 70 million families in America must become aware of this national health hazard – your child is not really safe until they and their friends are "media violence free".

center for successful parenting  
dedicated to protecting kids from media violence

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#### PARENTAL WARNING

VIOLENT MEDIA EXPOSURE HAS A NEGATIVE  
EFFECT ON YOUR CHILD'S BRAIN

**IMPORTANT  
PARENTING INFORMATION  
ENCLOSED**

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## THE STUDY

**Over a two-year period, researchers at Indiana University School of Medicine studied two groups of adolescents between the ages of 13 and 17.**

The first group was made up of normal teenagers. The second group consisted of teenagers who had been diagnosed with disruptive brain disorder or DBD. A DBD diagnosis is given to children who have shown significant aggressive behavior and resistance to authority. Subjects from the two groups were paired according to age, gender and IQ.

### STEP ONE

**In step one of the study, the teenagers and their parents were surveyed about the teenagers' exposure to violence in video games, movies and television.**

Some of the teenagers had viewed a lot of media violence throughout their lives and some had viewed very little.

### STEP TWO

In step two, the teens were tested in a very sophisticated MRI, called fMRI. **The fMRI produces pictures of the activity in the logical part of the brain, the pre-frontal cortex. This part of the brain produces what we think of as adult behavior.**

The pre-frontal cortex is responsible for controlling behavior, moderating impulsive urges, thinking about future consequences and decision-making. If children do not fully develop their pre-frontal cortex, they can become problem adults.

## THE BRAIN SCANS

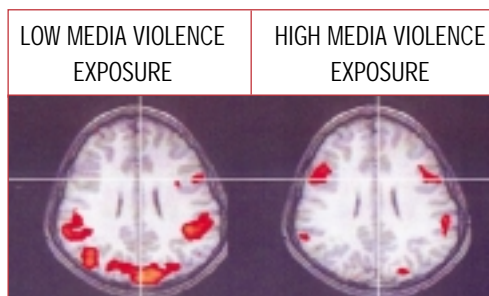
**The following two sets of the fMRI pictures or brain scans show the differences in brain activity between teenagers who had been exposed to a lot of media violence and those who had been exposed to very little.**

To understand the pictures, you need to know that the scans on the left are teens with low exposure to media violence and the scans on the right are teens with high exposure. The larger the red area and the deeper the red color, the more brain activity is occurring in the logical, adult part of the brain.

This is the area that parents want to develop in their children. Conversely, the smaller the red area and the lighter the color, the less brain activity is taking place.

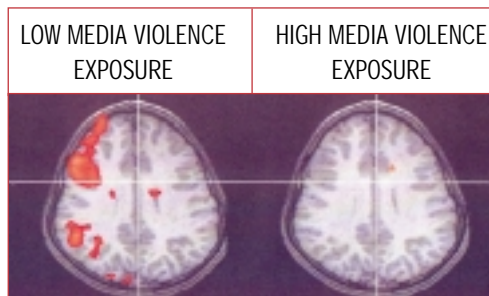
### THE VIDEO GAME

This set of scans shows brain activity when the teenagers were viewing a video game inside the fMRI. **The low media exposure teens are using more of the logical part of their brains than the high exposure teens.**



### DECISION MAKING

This set of scans shows brain activity during a decision making exercise, called Go-No-Go. **When it comes to looking into the future, weighing consequences and making decisions, the low media violence exposure group is using a lot of the logical part of their brain; the high media violence exposure group is using very little.**



## THE CONCLUSION

After studying and comparing all of the brain scans of all the teenagers, what did the researchers conclude?

**The most surprising result was that normal teenagers with a high amount of exposure to media violence had reduced activity in the logical part of the brain similar to those of teens with disruptive behavior disorder.**

All of the teens with DBD—disruptive behavior disorder—had less activity in the logical part of their brains than normal teens. The more violence they had seen, the more pronounced the deficit.

The normal teens that had seen very little media violence had the most activity in the logical part of the brain—the part that parents want to develop in their children.

All of these results indicate that there is a correlation between the amount of media violence children see and their ability to think logically.

Next time you find your child playing a violent video game or watching an action movie, **think**. Because you want them to be able to do so.